

REMARKS

Claims 1-4, 6, 8, 9, 11, 12, and 14-20 were rejected as being unpatentable over Jordan in view of Garcia. Claims 7, 10, and 13 were rejected as being unpatentable over Jordan in view of Garcia in view of Bertis. Applicant requests reconsideration.

Independent claims 1, 8, and 12 were amended to include the purpose of generating forwarding and routing tables in a cache, and to change "routing" to "forwarding and routing", being more particular. New Claim 21 claims the specific association as transmitted and the relative unilateral communication so that random citations to prior art elements without such association and communication would be largely irrelevant.

Claim 19 was amended to depend on new dependent claim 21, so that, claim 1 claims the specific association and relative communication, with claim 21 claiming that this specific association of information is unilaterally communicated when transmitted, with claim 19 depending on claim 21, and with claim 19 claiming the distal table building application of such specific association of routing information that is unilaterally communicated, relative to those associations and respective caches, for the purpose of building distal forwarding and routing tables. Applicant now responds by first repeating the prior response, and then addresses the examiner's rebuttals at the end of these remarks.

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1 From the previous Amendment:

2
3 "a) The examiner states that claim 1 does not reference the tri-
4 reference association. Anyone skilled in the art must realize that
5 in order to send a message to a destination through the web, the
6 destination IPA must be included. The tri-referenced information
7 includes the originating URL, the source IPA, and the destination
8 IPA. That is, the routing information sent must necessarily include
9 the originating URL, the source IPA, and the destination IPA.

10
11 b) The examiner states that Jordan transmits routing information
12 (such as source address, destination address, forwarding address,
13 next hop address as disclosed upon request). What is strikingly
14 missing from this list is the necessary originating URL.

15
16 c) The examiner states that transmitting to one destination is not
17 broadcasting and that claim preambles do not limit the claims. If
18 the preamble is not a limitation, then the reference to
19 broadcasting in the preamble, respecting claim 1, seems misplaced.
20 Surely the communication to one destination cache is a minimal,
21 point-to-point broadcast, but a broadcast nonetheless. Claims 11
22 and 14 particularly claim repeating the communication, which
23 perfects a wide-area broadcast. Also, the destination can build a
24 forwarding and routing table from the receipt of a plurality of
25 routing information. Broadcasting and table maintenance are the
26 uses of the claimed tri-reference communication. Applications and
27 uses are spelled out in the preamble, not as limitations, but as
28 uses and applications. While uses and applications are not recited

1 element limitations, they nonetheless go to obviousness, in that,
2 the problem solved is relevant, to wit, building a URL-to-distal
3 cache routing table through broadcasting. Hence, applicant's
4 discussion as to obviousness and the problem solved brings in
5 discussion of broadcasting for forming the distal routing table.

6 Applicant devised tri-reference routing information to solve
7 the prior art problem. The tri-reference routing information
8 communication is the solution, to solve the problem of distal table
9 maintenance. In this regard, Jordan and Garcia have no commonality
10 with which to arrive at the present invention. Communication of
11 routing information by Jordan and the maintenance of table in
12 Garcia are not related in any regard, and the combination of them
13 does not suggest the invention in any regard. The examiner has
14 simply taken isolated features and combined them based upon
15 forbidden hindsight reconstruction. Jordan does not communicate the
16 tri-reference information. And Garcia does not receive the tri-
17 reference information nor use tri-referenced communicated routing
18 information to maintain tables.

19
20 d) The examiner first indicated that the claims do not recite a
21 table. Hence, claims 19 and 20 were added. Applicant is claiming a
22 method of communicating tri-referenced routing information that can
23 be broadcast and that can be used to build routing tables in
24 receiving distal caches. The examiner states that Garcia discloses
25 broadcasting the routing update messages comprising routing
26 information. Yet the examiner did not recite what exactly is that
27 information, which particularly relates to Internet Protocol packet
28 routing in the case of Garcia. Furthermore, Garcia does not

1 communicate tri-referenced routing information that includes an
2 originating URL. Both Jordan and Garcia do not communicate tri-
3 referenced routing information and both particularly do not
4 communicate the originating URL. Without source IPA, originating
5 URL, and the destination IPA, combined as routing information,
6 which may incidentally be wide-area broadcast and used to build
7 routing tables, Jordan and Garcia cannot possibly suggest the claim
8 inventions.

9
10
11 e) The examination's inability to recognize the invention, led the
12 applicant to assist the examiner through the inclusion of claims 19
13 and 20 wherein the tri-referenced routing information is actually
14 used to build routing tables. Prior to adding new claims 19 and 20,
15 routing tables were not claimed. Applicant will assist the examiner
16 as necessary to fully gain understanding of the inventions and the
17 prior art.

18
19 f) The terms hop, path, link, are well understood by those skilled
20 in the art. There is no ambiguity.

21
22 The claims were rejected in part because the claims do not
23 recite intended applications of the method steps for broadcasting
24 associated routing information or recite arguments used in support
25 of non-obviousness. These rejections are misplaced. The examiner
26 states, on page 4, "In other words, the features upon which
27 applicant relies, (as in applicant's arguments), are NOT recited in
28 the rejected claims". This is a common perfunctory rejection often

1 correctly used by examiners in anticipation rejections, but so
2 often misplaced in the context of obviousness rejections.

3
4 In claim 1, applicant claims a method of broadcasting, which
5 method is executed solely at the proximal cache, AND NO MORE. This
6 claim clearly sets the reference perspective as being the proximal
7 cache at the proximal IPA. As such, a potential infringer has to
8 notice that a proximal cache, so broadcasting, that is merely
9 broadcasting without regard to creating a forwarding and routing
10 table at a destination, perfects the method and is covered by the
11 claim. With this broadcasting method, a routing and forwarding
12 table at the destination can then be maintained at a distal cache.
13 As such, applicant claims the method of broadcasting only in so far
14 as the execution is exclusively performed at the proximal cache.

15
16 There is no requirement that claim 1 also includes language as
17 to the intended uses or applications of this broadcasting method or
18 requirement that this claim claims the benefits of this
19 broadcasting method, as the examiner incorrectly suggests. An
20 obviousness determination is focused upon whether or not the
21 claimed combination is obvious. The determination of obviousness
22 goes to both the solution as in part claimed in claim 1 and the
23 problem solved as stated in the argument. As to the solution in
24 part, the combination of claim 1 has not been rejected as
25 anticipated, but rejected for obviousness. Anticipation can be
26 determined by an element-by-element comparison. Applicant did not
27 address an anticipation rejection, where elements must be recited
28 in the claims and not found in a single prior art reference. If

1 applicant had argued that claim 1 was not anticipated because the
2 prior art does not teach a destination routing table in
3 combination, then the examiner's assertion would have been correct,
4 and the routing table should be recited in the claims. However, the
5 rejection is one of obviousness that brings into consideration a
6 whole variety of related issues, such as, a long felt need without
7 solution, and of course, the prior art problems solved. Surely, the
8 examiner would not suggest that the claims must specifically recite
9 the number of years that the prior art had such a long felt need,
10 or necessarily recite the prior art problems solved, yet these two
11 things do support a non-obviousness determination. Arguments that a
12 claimed invention is not obvious need not be recited in the claims.
13 It is simply enough that the combination not be anticipated, as
14 indicated in the present record, and that the combination of claim
15 1, not be obvious. It is simply enough that the claimed
16 broadcasting method steps in combination not be suggested, yet be
17 useful. The reasons why a claim combination would not be obvious
18 need not be recited in the claims. The examiner's basis for
19 rejection because applicant's arguments are not found in the claims
20 is without merit in the present obviousness determination context.

21
22 The claims are patentably distinct as written. New claims 19
23 and 20 add another step to claims 1 and 8 respectively of storing
24 the association in the destination cache at the destination IPA,
25 whereat a forwarding and routing table can be maintained. Hence,
26 the use of the claimed combination of the broadcasting method of
27 claim 1 then enables the creation of forwarding and routing tables
28 at the destination IPA, and hence, enables the migration of routing

1 information containing associations between URLs and source web
2 cache IPAs subsequently stored as routing items in forwarding and
3 routing tables at destination IPAs. Significantly, the claim 1
4 steps provide a method of broadcasting routing information that can
5 then be used by other distal caches for accomplishing the migration
6 of forwarding and routing tables. Claim 1 claims a broadcasting
7 method and not the creation of forwarding tables as now claimed in
8 new claims 19 and 20. Surely, this unanticipated and unobvious
9 broadcasting method is of some value.

10
11 From a practical perspective, the examiner should realize that
12 networks have distributed caches that can be manufactured by
13 various entities. Claim 1 only covers a broadcasting cache that is
14 the proximal cache, and hence, covers a necessary element to
15 forwarding and routing table migration within an entire network.
16 Claim 1 covers a necessary novel core of the invention because,
17 without this broadcasting of routing information, a distal
18 forwarding and routing table cannot be maintained by a proximal
19 cache. Hence, claim 1 focuses on a core point of novelty while
20 providing clear notice of the scope of the claim. Other systems do
21 have caches, and do have forwarding tables, and do have routing
22 tables, but do not broadcast tri-referenced associated routing
23 information. Hence, the focus of claim 1 is directed to a necessary
24 point of novelty. The threshold point of novelty is the
25 broadcasting of tri-referenced associated routing information. This
26 broadcasting does not include process steps occurring at the
27 destination cache, so that one can determine from claim 1, which
28 caches within a network are covered by claim 1, and which ones are

1 not. As such, the process steps of claim 1 are executed only at the
2 proximal IPA, give clear notice as to what would infringe, and
3 focus the examination of this case. This claim 1 strategy provides
4 clear notice, covers a necessary point of novelty, and focuses this
5 examination on to that the point of novelty, which is the
6 broadcasting method of claim 1.

7
8 As such, the present invention of claim 1 serves to solve the
9 problems of maintaining a network of cooperative caches through the
10 migration of forwarding and routing tables by broadcasting tri-
11 referenced associated routing information. The present invention
12 solves the problem of routing table migration by broadcasting from
13 a first proximal cache to a second destination cache at a
14 destination IPA routing information that associates a URL-Id and a
15 third source IPA. These first, second, and third caches are clearly
16 referenced in claim 1. The associated information includes a tri-
17 referenced destination IPA, originating URL, and a source IPA. This
18 association is recited in claim 1. Claim 1 is particularly recited,
19 novel, unobvious, and useful.

20
21 The destination cache need not necessarily store the sought
22 after web content data, but only maintain routing items that define
23 where the web content data may ultimately be located through
24 routing and forwarding, and ultimately stored among the cooperative
25 caches. The web content data specified by the URL can be
26 alternatively cached in and retrieved from a source cache for
27 improved distributive web content data caching. As such, the
28 present invention solves the problem of maintaining cooperative

1 cache forwarding and routing tables by broadcasting tri-referenced
2 associated routing information. The tri-referenced associated
3 routing information including the URL, source IPA, and the
4 destination IPA, can then be used to create a forwarding and
5 routing table in any arbitrary distal cache, so as to migrate the
6 forwarding and routing table information about the cooperative
7 caches. This migration occurs without regard to load balancing,
8 polling, frequency monitoring, or the mere transmission of URL
9 requests from any one cache to another cache as in Jordan.

11 Applicant appreciates that many web features are found in
12 various methods operating on various caches in cooperative systems,
13 and that, the examination can become quickly confused if one is not
14 careful to focus on the broadcasting steps of claim 1 in reference
15 to any sole proximal cache, as in Jordan. Applicant was well aware
16 of this potential problem. To make the examination process as
17 focused and as convenient as practicable, claim 1 is directed only
18 to the minimal novel broadcasting steps executed by a single lone
19 proximal cache, so that, operational steps by any other lone cache,
20 such as in Jordan, can be quickly compared for novelty. Does this
21 prior art reference, Jordan, teach or suggest a single cooperative
22 proximal cache executing these tri-referenced associated
23 broadcasting steps? This determination is limited in scope to aid
24 in the examination process. When viewing Jordan, a like reference
25 perspective to a "proximal cache" serves to quickly clarify the
26 comparison and highlight the points of novelties.

28 ///

1 That is, the examiner should compare apples to apples, and any
2 lone cache in Jordan can be compared to the proximal cache of claim
3 1. However, because all of Jordan's caches operate in like manner,
4 any one cache in Jordan may be used for comparison. In this regard,
5 the migration and creation of forwarding and routing tables can be
6 had through a unilateral tri-referenced associated broadcast
7 communication from a broadcasting proximal cache as in claim 1. A
8 distal cache can then use this broadcast communication for building
9 a forwarding and routing table as recited in claims 19 and 20. For
10 example, when the destination cache receives a URL request, the
11 request can be routed and forward to the source cache and not the
12 originating cache. As such, claim 1 and claim 19 highlight
13 respective bifurcated functions for migrating forwarding and
14 routing tables. Jordan relies on like caches whereas the proximal
15 cache of claim 1 and the distal cache of claim 19 rely on a
16 cooperation between differently operating caches, yet another clear
17 distinction between Jordan and the present invention.

18
19 Jordan teaches a load-balancing network of like cooperative
20 caches that store web content data and maintain caching tables.
21 Jordan does not solve the problem of migrating forwarding and
22 routing tables about a network of caches. Jordan does not use the
23 claim 1 solution of transmitting from a proximal cache to a
24 destination cache tri-referenced routing information associating a
25 URL with a source IPA of an alternative source storing or pointing
26 to where the URL's web content data may be subsequently retrieved.
27 In so doing, the invention of claim 1 serves to enable the
28 migration of the forward and routing information about the

1 cooperative distal caches that can then create forwarding and
2 routing tables arbitrarily anywhere in the cooperative network.

3
4 Jordan teaches that when a cache is overloaded by a URL
5 request, the URL request is directed to another destination at a
6 destination IPA, so that the destination, that may store the web
7 content data, can then function as a new alternative source. As
8 such, the destination can retrieve the web content data, store it
9 locally, and then respond to URL requests for the web content data
10 so as to load share. As such, the destination and source are one in
11 the same. Jordan does not solve the problem of migrating forwarding
12 and routing tables among cooperative distal caches. Jordan does not
13 suggests the invented solution of broadcasting to a destination
14 distal cache tri-referenced routing information associating the
15 destination IPA with a URL indicating that web content data can be
16 found in an alternative source cache.

17
18 In Jordan, a proximal cache at a proximal IPA receives a
19 request for URL web content data from an originator or client
20 browser. When the proximal cache at the proximal IPA is overloaded,
21 the proximal IPA redirects the original request to a destination
22 IPA also storing the web content data. The request is forwarded to
23 a destination as an alternative source. The request contains an
24 association between the requesting IPA and the URL of the
25 originator originally firstly storing the requested web content
26 data. Then, the destination cache stores the web content data to
27 serve URL requests. The destination retrieves the URL web content
28 data, stores it locally, and updates its caching table indicating

1 it has stored this URL web content data. Jordan teaches load
2 sharing. Jordan does not teach a method of broadcasting tri-
3 referenced routing information, including an association between
4 URL-Id and an alternative source of the URL-Id web content data and
5 a destination, but rather directs the URL request to an unloaded
6 server storing the sought after URL data. Jordan does not teach a
7 method of broadcasting an association of a source with a URL to an
8 arbitrary destination that can then construct and maintain a
9 routing and forwarding table.

10
11 Jordan teaches a load-balancing web content data caching system
12 that maintains a logical central directory for locating where
13 requested web data is stored, preferably in the least loaded cache.
14 (Col 7 lines 60-65). In Jordan, there is a guarantee that the owner
15 indicated in the directory does store the sought after web content
16 data. By contrast, the present invention makes no such guarantee,
17 as the routing information merely provides a direction through
18 which a request could be forwarded or routed until a source cache
19 is eventually reached that does store the sought after web content
20 data specified in the URL request. The broadcasting of claim 1
21 provides the routing information, including the destination IPA,
22 the URL, and the source IPA, and not the web content data.

23
24 The present invention provides for the broadcasting of routing
25 information from a proximal IPA. The routing information at the
26 proximal cache at a proximal IPA location is a tri-referenced
27 association associating the destination cache at a destination IPA,
28 and a source cache at a source IPA, and the URL. The associated URL

1 request for web content data originally provided at a originating
2 URL IPA is an implied fourth location. The physical locations are
3 the proximal IPA, source IPA, the destination IPA as particularly
4 stated in claim 1, while a fourth location of the original URL IPA
5 location is also inferred. This specifically required tri-
6 referenced association of the destination IPA, source IPA and URL,
7 as recited in claim 1, is essential to understanding the novelty of
8 claim 1 that then enables the migration of forwarding and routing
9 tables. The destination IPA, originating URL, and source IPA
10 association includes routing information associating a source IPA
11 and the URL during broadcasting, which then enables the building of
12 a forwarding and routing table at the destination distal IPA.
13 Jordan does not have this tri-referenced association or the
14 capability of migrating forwarding and routing information through
15 unilateral broadcasting. Jordan does maintain a caching table,
16 which can be used to forward URL requests. However, the caching
17 table is not maintained by virtue of receiving unilateral broadcast
18 tri-referenced associated routing information. The caching table is
19 not maintained by virtue of receiving unilateral broadcast routing
20 information because, in Jordan, at least two of the claimed tri-
21 referenced IPA locations, if not all three, are the same locations.
22 In Jordan, the source and destination are one in the same, which
23 receives a request, retrieves the URL data, updates its caching
24 table, and becomes the alternative source, and hence, the
25 limitation to only caching tables indicating exactly where is
26 stored the requested web content data.

27
28 ///

1 In view of the abstract of Jordan, a "request" indicating a
2 requester at a requester IPA and indicating the "object", that is
3 the requested URL web content data, is "forward" directly to
4 another cache, so that the "requests" are shifted, that is, forward
5 to another cache also storing the sought after web content data.
6 Jordan does not use routing in any regard, as the examiner
7 incorrectly suggests. Jordan migrates web content data and forwards
8 requests when overloaded. Jordan's shifting by forwarding requests
9 perfects load balancing among caches. As such, Jordan maintains a
10 directory as a correctly named caching table of all caches storing
11 the sought after web content data for forwarding when overloaded.
12 That is, all of Jordan's caches are merely source caches sharing
13 loads by forwarding requests. There is a difference between a
14 caching table and a forwarding and routing table. A caching table
15 points directly to alternative source caches having the stored
16 data. A forwarding and routing table points to another location
17 that may or may not have the stored data, but ultimately indirectly
18 points through a path along which a request is routed and
19 forwarded, hopping from one cache to another, to where the data may
20 be ultimately found. When a proximal cache is overloaded in Jordan,
21 the proximal cache sends the URL request, which is not used as
22 routing information, to an alternate cache location, at an
23 alternate destination. (See Figure 3) As such, each proximal cache
24 monitors the frequency of the requests, and if overloaded, each
25 proximal cache searches its caching table directory to find other
26 caches storing the same web content data, and forwards the request
27 to the alternate source cache. In this manner, load balancing and
28 web content data sharing is achieved.

1 Jordan forwards a URL request to a destination source cache,
2 being both a destination and a source. Each cache in Jordan is a
3 proximal cache, a destination cache, and ultimately a source cache,
4 each maintaining a respective like caching table. The communicated
5 URL requests or polling inquiries are simply not routing items
6 having a tri-referenced association between a destination IPA, a
7 source IPA, and a URL enabling a migration of forwarding and
8 routing tables. The polling in Jordan is a bilateral communication,
9 and not a unilateral communication. Jordan does not communicate
10 from one proximal cache to a destination cache indicating that data
11 is available through, but not necessarily at, yet another source
12 cache. Jordan's caches do inquire through multicast polling where
13 the information is stored for maintaining the caching table. When
14 stored at the destination, the proximal overloaded cache sends the
15 URL request to the destination to load share. In Jordan, there is
16 no tri-referenced associated routing information broadcast from a
17 proximal cache to a second destination cache indicating a direct
18 forwarding or indirect routing path to where the web data is stored
19 on a third source cache. In Jordan, there is no routing information
20 whatsoever, but rather, mere requests to send web content data to a
21 requester or polling inquiries. In Jordan, an overloaded proximal
22 cache searches its caching table directory, and then communicates
23 and forwards the request from a proximal cache to a distal
24 destination also serving as an alternative source cache. As such,
25 Jordan does imply operation among three locations including a
26 requester, an overloaded cache, and an underloaded cache. The
27 operation in total does involve three locations, a requester, a
28 proximal cache, and a destination source cache. However, the

1 information consists of mere requests, inquiries, and does not
2 point directly or indirectly to yet another third alternative
3 source cache of the web content data. In Jordan, the destination
4 and source are one in the same. The requests may be also used as
5 the inquiries as to whether or not the web content data is stored
6 at a distal cache. Hence, Jordan's communicated information is
7 different. For maintaining the caching table, Jordan's information
8 may include URL requests, the requester, and the destination, but
9 not URL requests, the destination, and another source. The polling
10 inquires would not include the alternative source as with the tri-
11 referenced associated routing information of claim 1. Jordan
12 provides for mere URL requests or inquiries, whereas the present
13 invention broadcasts actual tri-referenced routing information. The
14 information is different, and hence, Jordan does not anticipate,
15 and information communicated ultimately serves different purposes,
16 such as load sharing using caching tables as opposed to routing
17 information migration, and hence, the arguments as to
18 nonobviousness. Jordan solves the problem of load balancing using
19 forward requests, polling inquires, and caching tables whereas the
20 present invention solves the problem of migrating routing tables
21 and does so by broadcasting tri-referenced associated routing
22 information. With different problems solved, different objectives,
23 and different solutions, Jordan does not remotely suggest the
24 present invention.

25
26 Specifically comparing apples to apples, Jordan teaches
27 multicasting where a cooperative cache multicasts URL requests or
28 inquiries to other caches. (Col 8 line 1) These URL requests may

1 function as simple inquiries, such as, "do you have this
2 information", and the answer may be "yes," indicated by merely
3 sending the web content data in response. In so doing, each cache
4 polls the remaining caches to maintain the caching tables. Jordan
5 maintains a caching table by polling caches through bilateral bi-
6 referenced communications. The present invention broadcasts
7 unilateral tri-referenced routing information, so that, distal
8 caches can maintain routing and forwarding tables. Jordan
9 bilaterally multicasts bi-referenced unassociated inquiries to
10 maintain caching tables in proximal caches. The present invention
11 unilaterally broadcasts tri-referenced associated routing
12 information for maintaining forward and routing tables in distal
13 caches. The two processes are completely different serving
14 different objectives for solving different problems.

15
16 Jordan is clear and teaches load balancing. "Direct requests
17 155 are sent from the clients ... to cache server". (Col 5 line 55)
18 "If an actual load imbalance is identified ... the load monitor
19 initiates a shifting of forwarded requests from the overloaded
20 cache to ... less loaded servers". (Col 6 line 3) "if the owner is
21 currently overloaded ... the load monitor finds an underloaded
22 cache ... and assign it as the new owner of the requested object".
23 (Col 6 line 63) "The ownership information for the object in the
24 caching table is updated". (Col 6 line 64). "The request can be
25 forward ... to the new owner". (Col 7 line 3)

26
27 The examination states that Jordan's request includes source
28 address, destination address, forwarding address, next hop address,

1 as disclosed in the request to an arbitrary cache or destination
2 upon a cache miss wherein the new entry is created for the object
3 in the caching table a routing or forwarding table (Col 6 L50-67,
4 and Fig 2a).

5
6 Is that really so? A search of specification reveals that the
7 term "HOP" is not found at all. A search of the summary and
8 preferred embodiment reveals that the term "route" is not used at
9 all. Yet, to the examiner, it is apparently clear from these
10 apparent phantom words. Within this cited text, none of these terms
11 are mentioned at all, yet, this section is cited as the basis of
12 the rejection. This is remarkable. Applicant appreciates that the
13 technology is complex and involves many caches at many different
14 locations serving different uses while communicating different
15 types of information. Nonetheless, precise and careful reading is
16 required to fully understand the differences between Jordan and the
17 present invention.

18
19 The caching table shown in Fig 2a of Jordan includes objects
20 (the URL) and "Ownership" that is, the caches A, B, C storing the
21 web content data. Such specific A, B, and C caches are not
22 arbitrary, as indicated by the examiner, but indicate exactly where
23 the data can be found and exactly where the request can be
24 forwarded for load balancing and sharing. It appears the examiner
25 reads more in Jordan than what is really there.

26
27 The plain full text does not read as the examiner indicates.
28 "FIG. 3 shows an example of a logic flow for steps taken by the

1 load monitor 120 in response to a request 125 from a cache server
2 150 because of a cache miss. As depicted, in step 201, it checks to
3 see if the requested object/partition can be found in the caching
4 table. If not, in step, 202, a new entry is created for the
5 object/partition and a cache server is assigned as its owner. After
6 the entry is located in the caching table, in step 203, the
7 forwarding frequency 1011 is updated, e.g., incremented by 1. The
8 load monitor then examines the load table 102 to see if the owner
9 is currently overloaded (and that the forwarding frequency 1011 is
10 a significant contributor thereto), in step 204. If yes, in step
11 205, the load monitor finds an underloaded (or less loaded) cache
12 server and assign it as the new 10122 (or shared) owner 10122 of
13 the requested object. The ownership information 1012 for the object
14 in the caching table 101 is updated accordingly. Those skilled in
15 the art will appreciate that the logic flow could comprise a shared
16 10123 or hierarchical ownership 1012 in the caching table 101 or
17 other data structure employed. The request (possibly with a copy of
18 the requested object) can then be forwarded 125 to a new sole 10122
19 (or shared 10123) owner, in step 206. Alternatively, the new owner
20 can be requested to obtain 115 an object copy from the originating
21 object server, e.g., via the Internet 110." (Col 6 lines 50-66).
22

23 As such, the examiner incorrectly cites a specific section of
24 text standing for the proposition that "On the other hand, Jordan,
25 in its clear context, explicitly teaches the process of
26 transmitting routing information, (such as source address,
27 destination address, forwarding address, next hop address, as
28 disclosed in the request) to an arbitrary cache or destination upon

1 a cache miss, wherein the new entry is created for the object in a
2 caching table, or routing or forwarding table." In discussing
3 Jordan, "in its clear context", the examiner uses the terms such as
4 "source address", "destination address", "forwarding address",
5 "forwarding table", yet a simple cursory examination of the cited
6 text upon which the examiner relies, teaches no such things nor
7 uses any of these terms. Where are these terms in the cited text?
8 How possibly could one make this apparent leap, but through some
9 kind of tortured reasoning? These terms used by the examiner are
10 not in the cited text, nor suggested in any regard, yet asserted by
11 the examiner, as "clear". This is remarkable. The record of the
12 present prosecution is becoming so distorted by the examiner's
13 unsupported assertions, that this record is quickly becoming, in
14 and of itself, a strong indicator of nonobviousness.

15
16 Jordan should be viewed from the exclusive perspective of a
17 lone proximal cache, as dictated by the structure of claim 1 of the
18 present invention. Jordan multicasts different information, that
19 may be simple URL requests indicating a requester and the URL to a
20 source of the URL data. This is opposed to broadcasting routing
21 information associating an alternative source and a URL with a
22 destination IPA, which does not even request the URL data. In
23 Jordan, the URL request is communicated to a different location,
24 that is, directly to a source of URL web content data for
25 retrieving the URL content data. This is opposed to communicating
26 to a destination cache that merely receives the routing information
27 indicating an alternative source, which communication can then be
28 used to build a forwarding and routing table. Jordan solves a

1 different problem that is one of load balancing among like caches.
2 This is opposed to solving the problem of migrating routing
3 information for the purpose of building routing and forwarding
4 tables in different arbitrary distal caches. With all kind due
5 respect, Jordan does not remotely suggest the prevent invention.

6 Jordan multicasts polling bi-referenced inquiries from a
7 proximal cache to destination caches that affirmatively respond in
8 bilateral communications for maintaining a caching table in the
9 proximal cache, which caching table is then used for forwarding URL
10 requests to those destinations storing the URL data when a URL
11 request frequency at the proximal cache is high for load balancing.

12
13 The present invention of claim 1 broadcasts from the proximal
14 cache to destination caches tri-referenced routing information in a
15 unilateral broadcast communication, where the routing information
16 associates a source IPA with stored originating URL data or stored
17 additional routing information to a source of stored URL data along
18 with the destination IPA, so as to enable the maintenance of
19 forwarding and routing tables in the destination caches as in
20 claims 19 and 20.

21
22 Jordan relies on like caches all with like caching tables and
23 with like frequency monitoring, whereas the proximal cache of claim
24 1 and the distal cache of claims 19 or 20 rely on a cooperation
25 between differently operating types of caches. Jordan does not
26 suggest such a bifurcated cache function. The present invention is
27 not required to poll other caches. The present invention does not
28 require load monitoring. The present invention does not require

1 multicast bilateral communications. The present invention does not
2 maintain limited caching tables restricted to a few caches for
3 simple load sharing only among them through forwarding URL
4 requests. The present invention enables the building of generalized
5 routing and forwarding tables in arbitrary destination distal
6 caches regardless of what web data is stored on the distal
7 destination caches. The present invention enables cooperative
8 caching about a network of cooperative caches without regard to the
9 frequency of URL requests at any one cache. Jordan does not have
10 these benefits. The alternative distal source cache may store and
11 source the URL web content data through directed forwarding
12 requests or the alternative distal source cache may indirectly
13 point through hop routing to yet another more remote distal
14 alternative source cache storing the URL web content data, as
15 indicating the equivalence between forwarding and routing, enabling
16 any number of routing hops to locate the sought after web content
17 data stored in any one of any number of cooperative caches disposed
18 anywhere within a network. The present invention is a significant
19 advancement in the art and enables a comprehensive generalized
20 network-wide distributive caching solution.

21
22 The cited references do not teach or remotely suggest
23 broadcasting of tri-referenced associated routing information from
24 a proximal cache to a destination distal cache, with the routing
25 information associating URL web content data at an originating URL
26 with an alternative distal source cache. The tri-reference routing
27 information minimally includes: 1) Source IPA (where the web
28 content data is cached); 2) Origination URL (identifying the

1 original web content data); 3) Destination IPA (where the source
2 IPA and Originating URL association are communicated for building
3 at the destination IPA routing and forwarding table that directly
4 or indirectly point to the URL web content data at the source IPA).
5 The proximal IPA is a fourth bit of routing information. However,
6 sometimes the proximal cache and the source cache are one in the
7 same. When the destination cache receives this routing information,
8 associating the original URL with the source IPA, a routing can be
9 created in the destination cache associating the source IPA with
10 the originating URL, so that, when a URL request is received by the
11 destination cache, the destination can forward (or reroute) the
12 request using the association between the request's URL to the
13 source IPA, rather than the originator at the originating IPA
14 originally storing the web content data indicated by the
15 originating URL. Hence, the tri-referenced information can be used
16 to build a routing table in a destination cache. When the proximal
17 cache at the proximal IPA broadcast the routing information to many
18 destination caches, the network of cooperative caches can each
19 build a forwarding and routing table for improved web
20 communications. Such broadcasting of this specific tri-referenced
21 associated routing information then enables the maintenance of
22 forwarding and routing tables in arbitrary destination caches for
23 forwarding and routing URL requests about a network of cooperative
24 caches. Allowance of the claims is requested."

25
26 END OF APPLICANT'S PRIOR RESPONSE.

27 Examiner's Rebuttal and Applicant's Response
28

1 a) The examiner states that a knowledge of the invention is
2 necessary for the examination and that examination involves a
3 reconstruction analysis from prior art elements. To be sure, the
4 invention must be in mind, and prior art elements can be found, as
5 is most usual, but, it is the cherry-picking of elements based
6 solely upon the claims, and then the unfounded combination of them
7 along the lines of the invention, that is forbidden, as the
8 forbidden reconstruction comes when the examiner, WITHOUT ANY
9 SUGGESTION to do so, rearranges prior art elements and combines
10 them along the lines of the invention to meet the invention. Where
11 is the suggestion in the prior art to associate the specific tri-
12 reference routing information? There is none.

13
14 b) The examiner disagrees that Jordan and Garcia do not communicate
15 tri-referenced routing information. This is a remarkable assertion,
16 and clear point of factual difference. The claims just do not cover
17 the communication of the tri-reference routing information randomly
18 at unknown times in bits and pieces, to unknown recipients, for
19 some other purposes, but the association of the information
20 together, called a forwarding and routing item, and then the
21 specific relative communication of the routing item to a relative
22 destination that is relative to the source, proximal cache, or
23 originator. It is the sum total including: the association of the
24 particular tri-reference information, the communications of the
25 tri-reference routing information; and the communication to a
26 relative destination. Surely, caches are networked and routing
27 information has been used, but not this association relatively
28 communicated for the purpose of building remote forwarding and

1 routing tables. The claim is rejected based upon obviousness and
2 not anticipation, and hence, there must be shown some motivation to
3 combine along the lines of the invention. Jordan and Garcia do not
4 teach any motivation whatsoever to combine the information and
5 communicate the information to a relative destination as referenced
6 by the information. The combination of claim 1 is useful and not
7 suggested in the cited references.

8
9 c) The applicant, in dependent claims 19 and 20, set forth the
10 application of claim 1, that is, the motivation for so transmitting
11 the information to remotely build forwarding and routing tables.
12 The examination states that Jordan in view of Garcia discloses the
13 process. This is remarkable. Jordan discloses means for simple
14 caching and Garcia discloses means for building routing tables. It
15 is the Examiner's incorrect conclusions that Jordan in view of
16 Garcia "suggests" the inventions. But, there are no suggestions to
17 cherry-pick, as the examiner as done, the specific information for
18 association and then communicate the same, for the purpose of
19 building a forwarding and routing table in a remote destination, an
20 application of neither Jordan or Garcia. Hence, the combination can
21 not possibly be suggested.

22
23 d) The examiner disagrees that other caching systems do not
24 broadcast tri-reference information. Caching systems cache data.
25 The present invention of claim 1 is not concerned about caching
26 data, as that has already been done on the network, but rather,
27 building remote forwarding and routing tables through propagating
28 associated forwarding and routing information to access that cached

1 data, and therein lies the problem with which the examiner
2 incorrectly draws unsupported conclusions. It is the specific
3 association, as claimed, the forwarding and routing information
4 communication, as claimed, and the relative destination, as
5 claimed, being relative to the originator, source, and the proximal
6 cache, that is novel, as a whole, that then enables the creation of
7 remote forwarding and routing tables. That is, the claim must be
8 read as a whole. Surely, all of this information has been
9 communicated before in bits and pieces, and surely, networked
10 caches are very well known, and surely, routing and forwarding
11 tables have been used, but that is not the point. The focus of the
12 examination should be on the association of particular information
13 and the particular relative communication, and not any association
14 or any information, communicated between any cached elements for
15 various other purposes. It is the particular set of tri-reference
16 associated information and the particular relative positions of the
17 caches that, as a whole, is the core novel part of the invention
18 that is recited in claim 1.

19
20 The examiner states "claim 1 simply associates the source IPA
21 and the originating URL and transmits this information." This is a
22 remarkable reduction of the word count of claim 1, and apparently
23 misses the point of the particular tri-reference information and
24 the communications between the proximal cache and the destination,
25 relative to a caching source and a URL originator. Perhaps
26 applicant can be of some assistance. Claim 1 includes communicating
27 the source IPA and originating URL, which communication includes
28 associating the proximal sender as identified by a proximal IPA and

1 associating the destination identified by a destination IPA. Hence,
2 the association includes the source IPA, URL, proximal IPA, and
3 destination IPA. Because the source cache and the proximal cache
4 can be one in the same, as in claim 3, the tri-referenced
5 information includes at least the source IPA, URL, and destination
6 IPA, forming a forwarding and routing item, all associated together
7 and communicated in association in a packet from the proximal IPA
8 to the destination IPA whereat a table can be reconstructed.

9
10 Claim 1 particularly recites:

11 generating at the proximal IPA
12 an originating URL (indicating an originator),
13 generating at the proximal IPA
14 a sourcing IPA for (indicating a source),
15 generating at the proximal IPA
16 a destination IPA for indicating a destination cache,
17 associating at the proximal IPA
18 the sourcing IPA and the originating URL as the routing
19 information, and
20 transmitting the forwarding and routing information from the
21 proximal cache at the proximal IPA to the destination cache at a
22 destination IPA, the transmitting of the forwarding and routing
23 information associates the sourcing IPA the originating URL with
24 the destination IPA.

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1 In claim 1, there is:

- 2 1) an originator, (cache);
- 3 2) an originating URL (information and not a request);
- 4 3) a source IPA (routing information)
- 5 (indicating a source cache);
- 6 4) a proximal cache (cache) (which may be the source cache);
- 7 5) a proximal IPA (information);
- 8 6) a destination (cache);
- 9 7) a destination IPA (information);

10
11 Here, the forwarding and routing information is associated and
12 relatively communicated. Just because this information, caches, and
13 tables are known, in bits and pieces in the prior art, does not
14 make the particular association and the particular relative
15 communication combination, that is, the claim as a whole, obvious.

16
17 e) The examiner indicates that the argument upon which the
18 applicant relies are not found in the claims. Justly so, arguments
19 are not supposed to be appended to the claims. Obviousness is
20 determined by the solution as claimed, and the problem solved,
21 which may not be claimed. The problem solved involves old problems,
22 new applications, new uses, and new motivations, which problems and
23 applications need not be recited in the claims, yet they provide
24 reasons why the claimed combination solution is not obvious. Hence,
25 the problem solved and new application arguments need not be in the
26 claims, as it is enough that the claimed combination, the solution,
27 not be suggested and be useful. The examiner is wrong. Arguments
28 and problems solved need not be recited in the claims.

1 The specification teaches, and, the inventions of claims 19 and
2 20 set forth, the application and the purpose, a problem solved, of
3 the association and relative communication. The reasons why an
4 invention is not obvious need not and should not be found in the
5 claims. Rather, the claims recite the cooperative elements
6 performing a useful function. The associated information and
7 relative communication has the useful purpose of being able to
8 migrate tables, the purpose of claims 1 and 21, and the function
9 invention of claim 19. The purpose, not claimed as such, of claim
10 19 is to perfect a network of cooperative caches with the
11 functional migrated forwarding and routing tables, even though a
12 network of cooperative caches is not claimed in claimed 19, nor
13 must it be so claimed. The examiner found that these combinations
14 are not anticipated, hence, the obviousness arguments. But,
15 arguments are just that. Here, the specific association and
16 relative communication are not suggested in the cited reference,
17 even though, as is common, all of the elements are found in the
18 prior art somewhere, in bits and pieces. The claimed combination
19 has a useful purpose, even though that purpose may not be recited.
20 The purpose and application of the invention of claim 1 need not be
21 claimed. It is sufficient that claim 1 be useful, which it is,
22 because it enables table migration, that it is not anticipated,
23 which has already been found by the examiner, and that it not be
24 obvious, which it surely is not obvious, as there are no
25 suggestions in the cited references to combine forwarding and
26 routing information and relative communication along the lines of
27 the invention.
28

1 Where is the suggestion in Jordan and Garcia to associate the
2 specific information with relative communication for the purpose of
3 migrating a forwarding and routing table to a remote cache? There
4 is simply none. What is missing is the motivational purpose of
5 migrating routing tables using the associated information and
6 relative communications, as in claim 1. There is no teaching or
7 suggestion that this information, so associated and communicated,
8 could be used to migrate forwarding tables. The applications and
9 purposes of Jordan and Garcia are different. There are no
10 suggestions anywhere to modify Jordan and Garcia, inconsistent with
11 their teachings, information, communications, and purposes to
12 arrive at the claimed invention, and where, as here, an applicant
13 proceeds contrarily, with a different set of data, differently
14 communicated through different routes to different relative
15 entities, for achieving a different purpose, it is strong evidence
16 of nonobviousness.

17
18 Claims 19 and 20 set forth the application of the tri-reference
19 association and relative communication in the context of their
20 purpose, and that is, to create a distally located forwarding and
21 routing table. Claims 19 and 20, in addition to claim 1, require
22 the specific tri-referenced association, the specific relative
23 communications, and, per claims 19 and 20, for the specific purpose
24 of migrating forwarding and routing tables to be built in a cache
25 per that relative communication. Yet, despite this specific
26 association, this specific relative communication, and this
27 specific table building purpose and function, the examiner
28 concludes it is all obvious, without a suggestion to do so. It is

1 not that Jordan communicates information or that Garcia builds a
2 table, but rather, do they in combination, suggest this specific
3 association, this specific relative communication, and this
4 specific table building purpose and function.

5
6 f) The examiner disagreed that Jordan does not teach a method of
7 reconstructing a table. Not any table will do. A caching table
8 indicates the local cache stores the data. A routing table
9 indicates routes from one router to the next. A forwarding table
10 indicates what other cache store the table to which a request can
11 be sent. Caching and routing tables are different from forwarding
12 tables. Just because Jordan communicates some caching information
13 to some destination for indicating a cache source using a caching
14 table, does not mean that Jordan suggests this specific
15 association, this specific relative communication, and this
16 specific forwarding and routing table building purpose and
17 function. Jordan builds a caching table locally from received URL
18 requests and not from forwarding and routing items. Jordan builds a
19 caching table and not a forwarding and routing table. The examiner
20 states that "the request as in Jordan includes the association of a
21 source with a URL to an arbitrary destination because the request
22 includes destination address, source address, URL." Jordan does
23 not send an associated URL as forwarding and routing information,
24 but rather sends a URL request, requesting the URL data. Claim 1
25 refers to an originating URL, which is information, whereas Claim
26 19 refers to a URL request, which is an instruction. A URL as
27 associated forwarding and routing information is different from a
28 URL request, which is a functional request for Web data.

1 In Jordan, a proximal cache at a proximal IPA receives a request
2 for URL web content data from a client browsing requester. When the
3 proximal cache at the proximal IPA is overloaded, the proximal
4 cache redirects the URL request to a destination IPA that will be
5 storing the URL web content data. That is, the URL request is
6 merely forwarded to an alternative source, the destination at the
7 destination IPA. The URL request contains an association between
8 the requesting IPA and the URL request of the URL originator at an
9 originating IPA originally firstly storing the requested URL web
10 content data. Then, the destination cache stores the web content
11 data to serve the URL request. The destination retrieves the URL
12 web content data, stores it locally, and updates its caching table,
13 which is not a forwarding table, but a caching table indicating
14 that the URL data has been locally stored. No forwarding is
15 contemplated by the destination having the stored URL data. Hence,
16 Jordan teaches load sharing and maintains local caching tables
17 using URL requests.

18
19 So, in claim 1, when forwarding and routing information is to
20 be propagated about a network of cooperative caches, a proximal
21 cache at a proximal IPA sends a source IPA indicating a source
22 storing URL web content data and sends a URL indicating an
23 originator at the originator IPA, and in so doing, necessarily
24 sends in association the proximal IPA and the destination IPA as a
25 quad-reference association of forwarding and routing information,
26 whereas, in Jordan, when a proximal cache, that is also a source
27 cache, at a proximal source IPA storing the URL web content data is
28 over loaded by a URL request from a browsing requester at a

1 requesting IPA, the proximal source cache sends the URL request to
2 the destination, which will first download the URL web content
3 data, update its caching table, and communicate the URL web content
4 data to the requester. No forwarding tables are built.

5
6 Garcia teaches that each router maintains a plurality of
7 labeled routing trees (LRTs), each LRT corresponding to a type of
8 service of the computer network, wherein the LRTs of routers in the
9 computer network are updated in response to receipt of one or more
10 routing state update messages and wherein LRTs are updated
11 according to whether an optimum routine approach or a least
12 overhead routing approach is used within the computer network, the
13 optimum routing approach routing state update messages are
14 transmitted when at least one of: (i) a routing state update
15 message which causes a link to be added to a subject router's
16 labeled routing trees is received, (ii) a recent routing state
17 update message regarding an existing link in the subject router's
18 labeled routing trees is received, and (iii) a destination becomes
19 unreachable by the subject router.

20
21 When a router table has changed upon receipt of a message, the
22 routing tree is updated. The routing state update messages include
23 a link-state information and a node-state information, wherein each
24 router maintains a plurality of labeled routing trees (LRT). Any
25 message transferred between a proximal and destination router has
26 the respective IPAs. A protocol allows for the dissemination of
27 link-state information and node-state information in the form of
28 labeled routing trees (LRTs). Updated routing trees in a routing

1 state update messages are used to communicate changes in the
2 routing network topology. Garcia, while computing hops, as is
3 expected with routers, does not relate to URLs, and does not relate
4 to finding alternative sources of URL web content data, because
5 Garcia was not concerned with migrating forwarding tables that
6 indicate where Web content data can be found. Forwarding tables are
7 used to route requests to sources of data whereas routing tables
8 are used for determining routing paths for routing requests.

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1 Claim 1, Jordan, and Garcia Comparison Chart

| | | | |
|----|-------------------|----------------------|------------------|
| 3 | Claim 1 | Jordan | Garcia |
| 4 | ----- | ----- | ----- |
| 5 | Routing Table | Load | Routing Tree |
| 6 | Migration | Balancing | Maintenance |
| 7 | ----- | ----- | ----- |
| 8 | Source IPA | | |
| 9 | Proximal IPA | Source&Proximal IPA | Proximal IPA |
| 10 | URL data | URL Request | |
| 11 | Destination IPA | Destination IPA | Destination IPA |
| 12 | ----- | ----- | ----- |
| 13 | Communicating | Communicating | Communicating |
| 14 | a routing item | a URL request | a routing tree |
| 15 | | | change message |
| 16 | ----- | ----- | ----- |
| 17 | for building | for building caches, | for updating a |
| 18 | routing and | caching tables, and | routing tree |
| 19 | forwarding tables | serving URL requests | table |
| 20 | ----- | ----- | ----- |
| 21 | for distributive | for distributive | for network |
| 22 | migration of | creation of caches | routing topology |
| 23 | forwarding and | | connectivity |
| 24 | routing tables | | maintenance |
| 25 | ----- | ----- | ----- |
| 26 | | | |
| 27 | | | |
| 28 | /// | | |

1 Garcia does not relate to a URL or to a forwarding table, and
2 does not provide for the migration of forwarding tables. Garcia
3 does not send a forwarding and routing item, but rather sends in a
4 message, a complete routing tree. Garcia does not send URL
5 identifiers or source IPA routing data, as the web content data is
6 not even addressed. Garcia does not send associated data for
7 updating forwarding and routing tables, but rather sends update
8 routing tables as the message is irrespective of any web content
9 data.

10
11 Jordan was concerned with network load balancing using caching
12 tables and communicated URL requests. Garcia was concerned with
13 routing topology updating using updated routing trees and messages
14 that communicated the updated routing trees. How possibly can these
15 two things be combined in any way when they are inherently directed
16 to different teachings and purposes, and not directed to migrating
17 forwarding tables where web content data can be found. One can only
18 guess. However, in so guessing, when a cache has both an internal
19 caching table as in Jordan and an internal routing table as in
20 Garcia, a process could be locally used to translate Jordan's
21 caching table indicating where the web content data is stored and
22 Garcia's routing table indicating paths to various routers, into a
23 forwarding and routing table locally, but that would not be
24 migration by broadcast, but local generation, as is common in the
25 art, and hence, would not reach the claimed invention. In guessing
26 again, Jordan's URL request could be sent to Garcia's router that
27 would then not view the URL request as a request, inconsistent with
28 Jordan's teachings, but rather, view the URL request as URL data

1 and translate Jordan's proximal IPA as a source IPA, and then
2 update Garcia's routing table into a forwarding and routing table,
3 which would be inconsistent with Garcia's teaching of sending
4 updated routing trees and would also be locally generated and not
5 migrated. Simply put, there is no suggestion to 1) treat Jordan's
6 URL request as a URL identifier inconsistent with Jordan's
7 teachings, 2) use Jordan's proximal IPA as the source IPA
8 inconsistent with the clear language of claim 1, and 3) thirdly,
9 modify Garcia's routing table as a forwarding table using the URL
10 request not as a request but as a routing item for building a
11 forwarding table inconsistent with Garcia's messages, which, even
12 if done under extreme reasoning, would still not reach the claimed
13 invention, as claim 1 recites both a source and a proximal cache.
14 The combination of Jordan and Garcia would still not reach the
15 claimed invention even when reasonably combined according to their
16 teachings.

17
18 There is no suggestion in the cited references to construe
19 Jordan's URL request as a URL routing item, to associate Jordan's
20 URL request with another source IPA, to communicate Jordan's URL
21 request as part of a forwarding and routing item communicated
22 between a proximal cache and a destination cache, to use a source
23 and a proximal cache IPA both as Jordan's proximal cache for
24 storing the web content data, to generate a wholly new process that
25 would translate Jordan's URL request into a forwarding and routing
26 item, and to translate Garcia's routing table into a forwarding and
27 routing table.

1 g) The examiner again asserts that the "receiving unilateral
2 broadcast tri-reference associated routing information are not
3 recited." Again, the examiner contends that the exact language of
4 arguments must be recited in the claims. No, they do not. The claim
5 must have an unobvious useful combination in view of cited
6 references, and no more. Argument as to why the combination is not
7 obvious need not be recited in the claims. Claim 1 does recite the
8 tri-reference association and does recite only one communication
9 that is from the proximal IPA to the destination IPA, and no other,
10 which is, by definition, a unilateral communication. As the
11 destination is arbitrary, but relative, and the communication of
12 claim 1 can be repeated, and hence, practicing the invention of
13 claim 1 more than once, is inherently a broadcast.

14
15 Importantly, the examination effectively asserts that because
16 routing information, routing tables, caches, and caching tables are
17 known, the specific association, and the specific relative
18 communication, in combination, would be obvious, irrespective of
19 any application. This is wrong. Yet, when one considers the
20 specific purpose, the application, as in claim 19 and 20, the
21 examiner again finds that the application is suggested as well, but
22 without a suggestion to do so.

23
24 h) The examiner states that the application relies upon a
25 unilateral communication. Yes, claim 1 is directed to a unilateral
26 communication, whereas Jordan requires bilateral communications.
27 This difference supports nonobviousness, in that, a unilateral
28 communication can be used for a purpose other than Jordan's

1 purpose. If Jordan and the present invention have different
2 applications, different purposes, different information, and
3 different relative communications, how possibly can it be suggested
4 to modify Jordan, by its own text, inconsistent with its teaching
5 for another purpose to arrive at the present invention of the
6 associated information and relative communications? It cannot.

7
8 i) The examiner refers to the prior art to Jordan using various
9 terms. One problem with this examination has been its inability to
10 examine invention vis-à-vis similarly disposed components. Hence,
11 the need to keep in mind, the specific associations and relative
12 communications.

13
14 While it is true that routing information is known, distributed
15 caches on a network are known, and that routing tables are known,
16 there is no suggestion in the cited references to use these
17 specific tri-reference associations and the relative communication,
18 that would then enable the migration of forwarding and routing
19 tables about a network of cooperative caches. The claims being in
20 good condition for appeal, allowance of the claims is requested.

21 Respectfully Submitted

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